Electronic Version

Stylesheet Version v1.1.1

Claims

[c1] 1. An antenna structure comprisied of:a(a) quadrifilar helix antenna ; (b) ubstantially parallel and substantially concentric metallic rings positioned around the longitudinal axis of the said quadrifilar helix antenna and aalong he total or partial length of the quadrifilar antenna.

2. The antenna structure of claim 1 where the said quadrifilar antenna is replaced by other multifilar helix antennas such as a bifilar helix antenna.

3. The antenna structure of claim 1 where the said quadrifilar antenna is replaced by a standard monofilar helix antenna.

4. The antenna structure of claim 1 where the said quadrifilar antenna is etched on a flexible substrate.

5. The antenna structure of claim 1 where tat least one of the he said metallic rings are etched on the same substrate as sthe aid quadrifilar helix antenna.

6. The antenna structure of claim 1 where tat least one of the aid metallic rings are etched on a different substrate than that of sthe aid quadrifilar helix antenna.

7. The antenna structure of claim 1 where the said metallic rings are part of the radome that houses the said quadrifilar antenna.

8. The antenna structure of claim 1 where at least one of the said metallic rings is an open ended metallic loop.
9. The antenna structure of claim 1 where at least one of the said metallic rings is connected to at least one other ring.
10. The antenna structure of claim 1 where at least one of the said rings or loops is electrically connected to at least one antenna helical element.
11. A method for reducing the height of a helix antenna by using substantially parallel and substantially concentric metallic rings positioned around the longitudinal axis of the said helix antenna and aalongthe total or partial length of the said helix antenna.
12. A method for tuning a helix antenna by using substantially parallel and substantially concentric metallic rings positioned around the longitudinal axis of the said helix antenna and aalongthe total or partial length of the said helix antenna.